Listing of Claims:

1.   (Currently Amended) An automated brokerage system for processing activity requests related to financial instruments, the system comprising:

a front end layer comprising a plurality of applications configured to generate activity requests related to one or more financial instruments in response to input from remote users;

an intermediate layer in communication with the front end layer, the intermediate layer comprising a plurality of intermediate layer servers for <u>simultaneously</u> processing the generated activity requests, the intermediate layer servers being configured to provide a set of services in connection with the processing of the activity requests; and

a back end layer in communication with the intermediate layer, the back end layer comprising a data source configured to provide financial instrument quote data, a data repository configured to store customer account data, and an order placement system configured to place one or more orders on a financial instrument trading market, the one or more orders being derived from at least one received activity request; and

wherein the intermediate layer servers are configured to interact with the back end layer data source, the back end layer data repository, and the back end layer order placement system as necessary to process the received activity requests.

2.   (Currently Amended) The system of claim [[91]] <u>95 </u>wherein the intermediate layer servers comprise a plurality of dedicated servers, each dedicated server being configured to provide a different set of services in connection with the processing of the activity requests.

3.   (Original) The system of claim 2 wherein the intermediate layer dedicated servers comprise:

at least one order server configured to receive and process order activity requests from the front end layer;

at least one customer account server configured to receive and process customer account activity requests from the front end layer, wherein the processing of customer account activity requests includes interacting with the back end layer data repository to retrieve customer

account data therefrom and providing the retrieved customer account data to the front end applications for display to the users; and

at least one quote server configured to receive and process quote activity requests from the front end layer, wherein the processing of quote activity requests includes interacting with the back end layer data source to retrieve the financial instrument quote data therefrom and providing the retrieved financial instrument quote data to the front layer applications for display to the users.

4.   (Original) The system of claim 3 wherein the order server is further configured to interact with the customer account server to obtain customer account data therefrom.

5.   (Original) The system of claim 3 wherein the order server is further configured to interact with the quote server to obtain financial instrument quote data therefrom.

6.   (Original) The system of claim 3 wherein the intermediate layer further comprises a database schema configured to store data related to received activity requests.

7.   (Original) The system of claim 6 wherein the database schema comprises:
at least one customers database for storing customer-specific data; and
at least one orders database for storing order-specific data.

8.   (Original) The system of claim 7 wherein the database schema further comprises at least one trading administration database for storing administrative restrictions related to activity requests.

9.   (Original) The system of claim 8 wherein the database schema further comprises a plurality of the customers databases, a plurality of the orders databases, and a plurality of the trading administration databases.

10.   (Original) The system of claim 8 further comprising an administrator interface for controlling the content of the trading administration database.

11.   (Original) The system of claim 10 wherein the administrator interface is configured to provide an administrator with control over restrictions on at least one of the group consisting of a financial instrument-specific basis, a trading market-specific basis, and an option-specific basis.

12.   (Original) The system of claim 3 wherein the intermediate layer further comprises:
        a plurality of the order servers; and
        a load balancer that interfaces the front end applications with the plurality of order servers, the load balancer being configured to distribute order activity requests among the plurality of order servers.

13.   (Original) The system of claim 3 wherein the intermediate layer further comprises:
        a plurality of the customer account servers; and
        a load balancer that interfaces the front end applications with the plurality of customer account servers, the load balancer being configured to distribute customer account activity requests among the plurality of customer account servers.

14.   (Previously presented) The system of claim 3 wherein the intermediate layer further comprises:
        a plurality of the quote servers; and
        a load balancer that interfaces the front end applications with the plurality of quote servers, the load balancer being configured to distribute quote activity requests among the plurality of quote servers.

15.   (Original) The system of claim 3 wherein the intermediate layer further comprises:
        a plurality of the order servers;
        a plurality of the customer account servers;

a plurality of the quote servers;

a first load balancer that interfaces the front end applications with the plurality of order servers, the first load balancer being configured to distribute order activity requests among the plurality of order servers;

a second load balancer that interfaces the front end applications with the plurality of customer account servers, the second load balancer being configured to distribute customer account activity requests among the plurality of customer account servers; and

a third load balancer that interfaces the front end applications with the plurality of quote servers, the third load balancer being configured to distribute quote activity requests among the plurality of quote servers.

16. (Original) The system of claim 9 wherein the customer account server includes memory resident thereon for storing customer account data that has previously been retrieved from the back end data repository, and wherein the customer account server is further configured to utilize the customer account data that has been stored in the resident memory according to a predetermined criteria when processing customer account activity requests.

17. (Original) The system of claim 16 wherein the resident memory is application-in-memory cache.

18. (Original) The system of claim 3 wherein the customer account server includes memory resident thereon for storing customer account data that has previously been retrieved from the back end data repository, and wherein the customer account server is further configured to utilize the customer account data that has been stored in the resident memory according to a predetermined criteria when processing customer account activity requests.

19. (Original) The system of claim 16 wherein the resident memory is application-in-memory cache.

20.   (Previously presented) The system of claim 3 wherein the front end layer and the intermediate layer communicate with each other according to the Internet Protocol Suite (TCP/IP) protocol.

21.   (Original) The system of claim 20 wherein the intermediate layer servers communicate with each other according to the TCP/IP protocol.

22.   (Previously presented) The system of claim 3 wherein a plurality of the front end applications are heterogeneous applications configured to communicate with the intermediate layer through a plurality of common component object model (COM) objects.

23.   (Original) The system of claim 22 wherein the front end layer COM objects include a COM object for communicating order activity requests to the order server.

24.   (Original) The system of claim 23 wherein the intermediate layer further comprises at least one trading administration database for storing administrative restrictions related to activity requests, and wherein the front end layer COM objects further include a COM object for validating an order activity request against restrictions stored in the trading administration database prior to forwarding that order activity request to the order server.

25.   (Original) The system of claim 22 wherein the front end layer COM objects further include a COM object for communicating customer account activity requests to the customer account server.

26.   (Original) The system of claim 22 wherein the front end layer COM objects further include a COM object for communicating quote activity requests to the quote server.

27.   (Original) The system of claim 3 wherein the back end data source comprises at least one quote feed, the at least one quote feed providing quote data in a data format to the quote

server, and wherein the quote server is further configured to convert the received quote data to an internal data format upon receipt thereof.

28.   (Original) The system of claim 27 wherein the back end data source comprises a plurality of quote feeds, at least two of the quote feeds providing quote data in different data formats, and wherein the quote server is further configured to convert quote data received from each of the quote feeds to the internal data format upon receipt thereof.

29.   (Original) The system of claim 28 wherein the quote data comprises a plurality of quote data types, and wherein the system further comprises an administrator interface configured to select, in response to administrator input, which of a plurality of quote feeds are to be used for receiving each of the plurality of quote data types.

30.   (Original) The system of claim 3 wherein the back end layer further comprises a plurality of the data repositories, and wherein the intermediate layer servers are configured to interact with both of the back end data repositories when processing activity requests.

31.   (Original) The system of claim 3 further comprising an approval desk interface configured to provide a person with control over whether to approve or reject order activity requests routed thereto, and wherein the order server is further configured to determine whether an activity request is to be routed to the approval desk.

32.   (Original) An automated brokerage system, the system comprising:
       a plurality of applications configured to generate activity requests related to one or more financial instruments in response to input from remote users, the activity requests comprising any of the group consisting of order activity requests, customer account activity requests, and quote activity requests;
       at least one order server configured to process the order activity requests;
       at least one customer account server configured to process the customer account activity requests;

at least one quote server configured to process the quote activity requests;

at least one quote data source in communication with the at least one quote server, the quote data source being configured to provide financial instrument quote data to the quote server;

at least one data repository in communication with the at least one customer account server and the at least one order server, the data repository being configured to store customer account data and provide stored customer account data to the customer account server; and

at least one order placement system in communication with the order server, the order placement system being configured to place one or more orders received from the order server on a financial instrument trading market, the one or more orders being derived from at least one order activity request.

33.   (Original) The system of claim 32 further comprising:

a plurality of the order servers;

a plurality of the customer account servers;

a plurality of the quote servers;

a first load balancer connected between the applications and the order servers, the first load balancer being configured to distribute order activity requests from the applications among the order servers;

a second load balancer connected between the applications and the customer account servers, the second load balancer being configured to distribute customer account activity requests from the applications among the customer account servers; and

a third load balancer connected between the applications and the quote servers, the third load balancer being configured to distribute quote activity requests from the applications among the quote servers.

34.   (Original) The system of claim 32 wherein the order server is further configured to, when processing order activity requests, generate customer account activity requests for communication to the customer account server, and wherein the customer account server is

further configured to provide customer account data that has been obtained in response to the customer account activity request received from the order server to the order server.

35.   (Original) The system of claim 32 wherein the order server is further configured to, when processing order activity requests, generate quote activity requests for communication to the quote server, and wherein the quote server is further configured to provide quote data that has been obtained in response to the quote activity request received from the order server to the order server.

36-81.   CANCELLED

82.   (Currently Amended) ~~In an automated financial instrument brokerage system configured to process activity requests related to financial instruments, the system comprising a first layer for interacting with users to generate activity requests, a second layer in communication with the first layer, wherein the second layer is configured to process activity requests, a method comprising:~~
        A method for processing activity requests related to financial instruments, the method comprising:
        providing a first layer and a second layer in an automated financial instrument brokerage system, the first layer for interacting with users to generate activity requests, wherein the second layer is in communication with the first layer, and wherein the second layer is configured to process activity requests;
        providing, in the first layer, a plurality of heterogeneous applications that are configured to generate activity requests related to financial instruments in response to user input;
        providing a common interface for each of the heterogeneous applications to communicate the activity requests to the second layer;
        receiving activity requests at the second layer from the common interfaces; and
        processing activity requests in the second layer independently of the application from which those activity requests originated.

83.   (Original) The method of claim 82 wherein the common interface providing step comprises:

        providing a component object model (COM) interface for each of the heterogeneous applications to communicate activity requests to the second layer.

84.   (Original) The method of claim 83 wherein the COM interface includes a COM object for communicating order activity requests to the second layer.

85.   (Original) The method of claim 83 wherein the COM interface includes a COM object for communicating customer account activity requests to the second layer.

86.   (Original) The method of claim 83 wherein the COM interface includes a COM object for communicating quote activity requests to the second layer.

87-90.   CANCELLED

91.   (Previously presented) The method of claim 82 wherein the plurality of heterogeneous applications comprises at least two selected from the group consisting of: a web site, a telephone, a touchtone telephone, a voice recognition application, a cell phone, a pager, a personal digital assistant, a computer, a Windows trading application server, and a Java trading application server.

92.   (Previously presented) The method of claim 82 wherein the plurality of heterogeneous applications comprises at least three selected from the group consisting of: a web site, a telephone, a touchtone telephone, a voice recognition application, a cell phone, a pager, a personal digital assistant, a computer, a Windows trading application server, and a Java trading application server.

93.   (Previously presented) The method of claim 82 wherein the plurality of heterogeneous applications comprises a web site, a cell phone, a personal digital assistant, a computer, a Windows trading application server, and a Java trading application server.

94.   (Previously presented) The system of claim 1 wherein the front end layer comprises at least one front end server, the at least one front end server being configured to execute the plurality of applications.

95.   (Currently Amended)   The system of claim 94 wherein the at least one front end server is further configured to distribute activity requests to the plurality of intermediate layer servers based [[an]] on activity request type.

96.   (Previously presented) The system of claim 3 wherein the customer account server comprises a web-to-back office (WBO) server that acts as a gateway between the back end layer of the system and a customer using a website provided by the front end layer.

97.   (Previously presented) The system of claim 17 wherein the customer account server is further configured to (1) check the application-in-memory cache for fresh customer account data when processing an activity request before accessing the back end data repository for such customer account data, (2) use the fresh customer account data to process that activity request if the fresh customer account data is present in the application-in-memory cache, and (3) access the back end data repository for such customer account data if fresh customer account data is not present in the application-in-memory cache.

98.   (New) The method of claim 82 wherein the second layer comprises a plurality of dedicated servers, at least one of the dedicated servers being configured to receive and process order activity requests from the first layer, at least one of the dedicated servers being configured to receive and process quote activity requests from the first layer, and at least one of the dedicated servers being configured to receive and process customer account activity requests

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from the first layer, and wherein the activity request processing step comprises interacting with a data repository and data source that are in communication with the second layer, the method further comprising:

routing generated activity requests through the common interface from the first layer to an appropriate one of the second layer dedicated servers based on a type for the generated activity request.